



PATENT  
Attorney Docket No. 213338  
Client Reference No. 20829

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Murakami et al.

Application No. 09/941,972

Filed: August 29, 2001

For: ADHESIVE COMPOSITION FOR SKIN  
AND ADHESIVE TAPE OR SHEET FOR  
SKIN COMPRISING COMPOSITION

Art Unit: 1713

Examiner: J. M. Reddick

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**APPELLANTS' APPEAL BRIEF**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In support of the appeal from the final rejection dated December 27, 2002, Appellants submit this Appeal Brief. The Notice of Appeal was filed on April 24, 2003, and received by the U.S. Patent and Trademark Office on April 30, 2003, thereby making this Appeal Brief due on or before June 30, 2003.

*Real Party In Interest*

The patent application that is the subject of this appeal is assigned to Nitto Denko Corporation.

*Related Appeals and Interferences*

There are no appeals or interferences that are related to this appeal.

*Status of Claims*

Claims 1-16 are rejected and are the subject of this appeal. Claims 1-16 are set forth in the Appendix attached hereto.

*Status of Amendments*

The proposed amendments to claims 7 and 15 made in the Response to Final Office Action dated February 26, 2003, were entered by the Office.

### *Summary of Invention*

The invention pertains to an adhesive composition for application to skin. The adhesive composition of the invention comprises:

- (1) an acrylic copolymer (100 parts by weight) obtained from a monomer mixture containing three components:
  - (A) a (meth)acrylic acid alkyl ester monomer (40-80 wt.%),
  - (B) an alkoxy group-containing ethylenically unsaturated monomer (10-60 wt.%), and
  - (C) a carboxy group-containing ethylenically unsaturated monomer (1-10 wt.%), and
- (2) a carboxylic acid ester (20-120 parts by weight, which is liquid or paste at room temperature,

wherein the acrylic copolymer has a gel fraction of 30-80 wt.% or 20-60 wt.% (see, e.g., specification page 4, lines 20-30, and page 5, lines 1-11). When an acrylic copolymer prepared from a monomer mixture of all three components (namely components (A), (B), and (C) as set forth above) is used to prepare an adhesive composition, the resulting adhesive composition has a high moisture permeability allowing skin to remain dry and allowing the adhesive composition to remain adhered to skin that is wet with perspiration (see, e.g., specification page 4, lines 6-17). Additionally, such an adhesive composition reduces irritation to the skin (see, e.g., specification page 4, lines 6-17).

### *Issues*

The issue on appeal is whether or not claims 1-16 are anticipated under 35 U.S.C. § 102(b) or, in the alternative, obvious under 35 U.S.C. § 103(a), in view of Shirai et al. (U.S. Patent 5,543,151).

### *Grouping of Claims*

The appealed claims stand or fall together.

### *Argument*

The Examiner contends that the Shirai reference anticipates the adhesive preparation of the present invention in content and character, since the components of the adhesive preparation of the Shirai reference overlap in scope with the components of the claimed adhesive preparation (see page 2 of Office Action dated December 27, 2003). Specifically, the Office contends that the Shirai reference teaches all the elements of the pending claims (see page 4 of Office Action dated April 2, 2002).

As indicated in the "Summary of Invention" above, the adhesive composition of the invention comprises (1) an acrylic copolymer and (2) a carboxylic acid ester. Component (1) of the adhesive composition of the invention is an acrylic copolymer obtained from a monomer mixture of three components: (A) a (meth)acrylic acid alkyl ester monomer, (B) an alkoxy group-containing ethylenically unsaturated monomer, and (C) a carboxy group-containing ethylenically unsaturated monomer.

As regards component (1), the Shirai reference discloses an adhesive composition comprising an acrylic polymer (see column 1, line 60 – column 2, line 9). As regards component (2), the Shirai reference discloses that the adhesive composition can additionally comprise a component that is in a liquid or pasty state at room temperature, such as an ester of an unsaturated fatty acid or a branched fatty acid (see column 2, lines 17-29). The acrylic polymer can be "a polymer or a copolymer comprising a (meth)acrylic acid ester as a main component, if necessary, copolymerized with a monomer copolymerizable with the (meth)acrylic acid ester" (see column 2, lines 34-38). The Shirai reference recites, in a long list, numerous monomers that can be copolymerizable with the (meth)acrylic acid alkyl ester (corresponding to component (A)) (see column 2, line 53 - column 3, line 15). The monomers recited in the long list of the Shirai reference include an alkoxy group-containing ethylenically unsaturated monomer (corresponding to component (B)) and a carboxy group-containing ethylenically unsaturated monomer (corresponding to component (C)). Thus, the Shirai reference discloses many individual components that conceivably could be mixed and matched to form an acrylic copolymer, and indeed the Shirai reference indicates that the monomers can be used alone or as mixtures (see column 3, lines 16-17).

While the Shirai reference discloses the individual components (A), (B), and (C) that can be combined to form the acrylic copolymer (1) of the adhesive composition of the present invention, the Shirai reference does not specifically disclose an acrylic copolymer obtained from all three components (A), (B), and (C), as recited in the appealed claims. Based on the long list of monomers that can be copolymerized with a (meth)acrylic acid ester as disclosed by the Shirai reference, and consequently the many possible permutations and combinations of components resulting in an acrylic copolymer, one of ordinary skill in the art would *not* consider that the Shirai reference actually *discloses* the particular acrylic copolymer obtained from the combination of components (A), (B), and (C) as recited in the appealed claims. Under the circumstances, the present invention cannot properly be considered to have been anticipated by the Shirai reference.

In addition, there is nothing in the Shirai reference that would direct or motivate one of ordinary skill in the art to single out the specific monomers (B) *and* (C) to combine with component (A) in order to provide an acrylic copolymer (1) as recited in the appealed claims,

which then still needs to be combined with a carboxylic acid ester (2) that is liquid or paste at room temperature to form an adhesive composition defined by the appealed claims. Thus, after reading the Shirai reference, one of ordinary skill in the art would not be motivated to pick and choose the particular monomers among the numerous monomers listed in column 2, line 53 – column 3, line 14, that would allow for the preparation of the adhesive composition of the present invention. The only way in which the Shirai reference can be considered to teach or suggest the acrylic copolymer obtained from the combination of components (A), (B), and (C) and its combination with a carboxylic acid ester to form an adhesive composition is through the use of impermissible hindsight, i.e., with the knowledge of the present application and the invention as claimed therein. The use of such hindsight, of course, cannot serve as a proper basis for an obviousness rejection.

The unobviousness of the invention defined by the appealed claims is further evidenced by benefits attendant the present invention and the failure of the Shirai reference to disclose or suggest how to achieve those benefits in an adhesive composition by the selection of the particular components needed to provide the present invention.

The present invention provides an adhesive composition having superior adhesion to the skin during perspiration (see, e.g., specification page 2, lines 19-22) by imparting hydrophilicity to the acrylic polymer and vapor permeability and hygroscopicity to the adhesive composition. Specifically, the present invention requires the use of an alkoxy group-containing ethylenically unsaturated monomer (B) as an essential component in the adhesive composition in order to improve adhesion to the skin during excessive perspiration.

The Shirai reference does not disclose or suggest the importance of including an alkoxy group-containing ethylenically unsaturated monomer (B) along with components (A) and (C) to form an acrylic copolymer for use in preparing an adhesive composition. In that respect, moreover, none of the examples disclosed by the Shirai reference provides an acrylic copolymer prepared from three different types of monomers of any type, let alone an acrylic copolymer prepared from the particular three components (A), (B), and (C) to be combined with a carboxylic acid ester (2) to form the present inventive adhesive composition. Indeed, the Shirai reference does not even describe or suggest the problems associated with using an adhesive composition during excessive perspiration or aim at solving these problems.


In view of the failure of the Shirai reference to direct one of ordinary skill in the art to the particular combination of elements necessary to arrive at the present invention, and in view of the unexpected properties attendant the particular combination of elements of the present invention, the appealed claims must be considered to define subject matter that is unobvious over the Shirai reference.

In re Appln. of Murakami et al.  
Application No. 09/941.972

*Conclusion*

For the foregoing reasons, Appellants respectfully request the reversal of the rejections of the subject patent application.

Respectfully submitted,

  
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Date: June 2, 2003

## APPENDIX

1. An adhesive composition for application to skin, which comprises  
an acrylic copolymer (100 parts by weight) obtained from a monomer mixture comprising a (meth)acrylic acid alkyl ester monomer (40-80 wt%), an alkoxy group-containing ethylenically unsaturated monomer (10-60 wt%) and a carboxy group-containing ethylenically unsaturated monomer (1-10 wt%), and  
a carboxylic acid ester (20-120 parts by weight), which is liquid or paste at room temperature,  
wherein the acrylic copolymer has a gel fraction of 30-80 wt%.
2. The adhesive composition for application to skin according to claim 1, wherein the carboxylic acid ester is a glycerine ester of saturated fatty acid.
3. The adhesive composition for application to skin according to claim 2, wherein the saturated fatty acid has 8 to 10 carbon atoms.
4. The adhesive composition for application to skin according to claim 3, wherein the saturated fatty acid having 8 to 10 carbon atoms is selected from the group consisting of a caprylic acid, a capric acid and a 2-ethylhexanoic acid.
5. The adhesive composition for application to skin according to claim 2, wherein the glycerine ester is a triglycerine ester.
6. The adhesive composition for application to skin according to claim 2, wherein the glycerine ester of saturated fatty acid is selected from the group consisting of triglyceryl caprylate, triglyceryl caprate and triglyceryl 2-ethylhexanoate.
7. The adhesive composition for application to skin according to claim 1, wherein the adhesive composition is chemically crosslinked.
8. The adhesive composition for application to skin according to claim 7, wherein the chemical crosslinking is performed using an organic compound selected from the group consisting of an organic peroxide, an isocyanate compound, an epoxy compound and a metal chelate compound.

9. An adhesive composition for application to skin comprising  
an acrylic copolymer (100 parts by weight) obtained from a monomer mixture comprising a (meth)acrylic acid alkyl ester monomer (40-80 wt%), an alkoxy group-containing ethylenically unsaturated monomer (10-60 wt%) and a carboxy group-containing ethylenically unsaturated monomer (1-10 wt%) and  
a carboxylic acid ester (20-120 parts by weight), which is liquid or paste at room temperature,  
wherein the acrylic copolymer has a gel fraction of 20-60 wt%.
10. The adhesive composition for application to skin according to claim 9, wherein the carboxylic acid ester is a glycerine ester of saturated fatty acid.
11. The adhesive composition for application to skin according to claim 10, wherein the saturated fatty acid has 8 to 10 carbon atoms.
12. The adhesive composition for application to skin according to claim 11, wherein the saturated fatty acid having 8 to 10 carbon atoms is selected from the group consisting of a caprylic acid, a capric acid and a 2-ethylhexanoic acid.
13. The adhesive composition for application to skin according to claim 10, wherein the glycerine ester is a triglycerine ester.
14. The adhesive composition for application to skin according to claim 10, wherein the glycerine ester of saturated fatty acid is selected from the group consisting of triglyceryl caprylate, triglyceryl caprate and triglyceryl 2-ethylhexanoate.
15. The adhesive composition for application to skin according to claim 9, wherein the adhesive composition is chemically crosslinked.
16. The adhesive composition for application to skin according to claim 15, wherein the chemical crosslinking is performed using an organic compound selected from the group consisting of an organic peroxide, an isocyanate compound, an epoxy compound and a metal chelate compound.